

REMARKS

The Office Action dated July 27, 2005 has been received and its contents noted. The foregoing amendments, and the following remarks, are intended as a full and complete response to the Office Action. In order to advance the prosecution, the Specification and Claims have been amended. In order to advance the prosecution, Claims 1-3 have been amended, and new Claims 9-18 have been added. Claims 1-18 are now pending in the application.

It is noted that the claims and specification have been amended to replace the phrase 'semicircular processes' with the phrase 'extending elements'. The meaning remains the same.

Formal drawings were required. By a concurrently filed Submission of Formal Drawings, formal drawings have been provided.

Claims 1-4 and 8 were rejected under 35 USC 102(b) as unpatentable over Fowler, III et al. (5197879). Claims 5 and 6 were rejected over Fowler, III et al. Claim 7 was rejected over Fowler, III et al taken in view of Williams et al (6739744). These grounds of rejection are believed to be fully responded to and overcome by the foregoing amendments to the claims, and in view of the following remarks.

Claim 1 has been extensively amended to recite the various distinguishing features of the invention which enhance the cleanliness, ease of use, safety of use, and sterilizability. Specifically, the changes to the claims add life and meaning to the intended use and functionality of structural elements recited in the amended claims. Additionally, the newly added Claims 9-18 recited structural and functional features of the invention which enhance the cleanliness, ease of use, safety of use, and sterilizability. These features add life and meaning to the claims, reciting intended use and functionality of the claimed elements.

The present invention is directed to a sterilizable dental tool having a smoothly contoured outer surface which, when in use, does not risk injury to the mouth of a patient. New Claim 9 is directed especially to this feature (sterilizability), and also contains the recitations of Claim 1 as amended so that it clearly distinguishes structurally over the Fowler III reference.

The Fowler III reference was cited for teaching a 'sterilizable dental tool'. Indeed, this patent shows a dental tool having two identical halves. This device of Fowler III, however, while 'sterilizable' only in the broadest sense, is clearly not adapted to be sterilized as is the device of the present invention as now claimed. In Fowler III, the dovetail joints (shown in Figs. 3 and 6) are inherently difficult to

sterilize; biological matter could easily become lodged in the sharp and acute angles of these dovetail joints, and these kinds of joints are notoriously difficult to sterilize properly. The device of the present invention in the claims as now amended, on the other hand, is clearly adapted to be sterilized, and includes no such acute angles, and the claims as amended recite flat surfaces as well as contoured surfaces.

More specifically, the flat surface 22 on Fowler in Fig. 2 compares unfavorably with the rounded contoured surface of the present invention as far as sterilizability is concerned. Such round surfaces of the present invention are advantageous and contribute to sterilizability in several ways. First, the features recited in the claims as now amended contribute to stability in use, as well as to oral safety of the patient inasmuch as no sharp or angled surfaces present themselves during use (see Fig. 1 of the present invention showing clearly the rounded shape about the central portion).

The structure of the present invention, as now recited in the claims as amended, contributes to stability during use throughout the working range of motion reflecting the instrument's use as a dental extraction tool where the tooth or tissue to be removed may be relatively wide and require a greater opening of the beak.

On the other hand, the structures shown in Fowler III

inherently have a more limited range of motion (see Figs. 8 and 9 of Fowler III). The device of Fowler III is primarily employed as an orthodontic wire bending plier, where the working range of motion is far less than that commonly used during dental surgery or other types of surgery.

In Fowler III, the male elements C and D in Fig. 2 of Fowler III do not project beyond the flat surface 22 (i.e. as viewed with respect to a line parallel to and tangential to the flat surface 22). In the present invention as now claimed, the projecting elements 32 and 34 extend well beyond (i.e. laterally) the sides of the opposing jaw component. That is, in the present invention as seen in Fig. 1, the elements 32 and 34 project well beyond the groove portions or central regions of the opposing jaw member as well as of the jaw member that supports them.

These differences permit a far wider working range for the instrument of the present invention, yet maintaining stability throughout that range. This configuration ensures the stability of the hinge joint during the extraction of a tooth where the forces used are quite high. Anyone skilled in the art of tooth extraction can attest to this. Furthermore, the free endings of the beak elements of the present invention finish in a line perpendicular to the long axis of the instrument. This allows a wider range of working motion and higher hinge stability than in the applied prior art.

A similar comparison can likewise be made with respect to the female elements of Fowler III and the present invention (i.e. the grooves 31 and 36 of Fig. 3 of the present invention).

There is a further marked difference between the device of Fowler III and the present invention as now claimed. In Fowler III, Figs. 3, 4, and 6 show male elements of triangular shape occupying half the instruments' width, and dovetail female elements. The present invention as now claimed, however, has much thinner male and female elements which occupy much less of the instruments' width or thickness. This serves to decrease their size and hence surface area, and thus with regard to sterilizability increase the probability that the steam used in sterilization (of the device of the present invention as now claimed) will have better access to these elements during sterilization.

Also, the shape of the male elements of the present invention as now claimed is not triangular as in Fowler III, and instead are rectangular. The rectangular shape of the cooperating male and female elements of the present invention enhances the sterilizability of the parts, i.e. these rectangular shapes themselves permit ready sterilization as compared with the joint shown in Fowler III. The shape of the cooperating elements in the present invention as now claimed having flat surfaces and rounded

contours (i.e. elements 222 and 250 in Fig. 14, 272 and 281 in Fig. 15, and planar flat elements 32 and 34 in Fig. 5 for example), it is clear that this shape allows a higher degree of cleaning with an instrument scrubbing brush and facilitates visual inspection of the same prior to sterilization.

The female elements of Fowler III being triangular in shape means that there is a high probability that blood, bone debris, and biological material can be retained after cleaning and allowed to dry in the apex of the triangular area 45 of Fig. 6 of Fowler III and area 24 of Fig. 3 of Fowler III. Indeed, this is alluded to in the specification of Fowler III itself, at col. 4 ll. 47-49 thereof.

The present invention as now claimed has been specifically arranged to avoid and prevent such problems. The instrument intricacies of the prior art which are not readily cleanable or that cannot be adequately inspected visually can harbor biological products which can render sterilization ineffective.

In Fowler III, the disengagement angle is 53 degrees or less (see col. 5, ll. 50-55 and col. 6 ll. 35-40 of Fowler III). In contrast, due to the specific construction of the present invention as now claimed, the angle of separation in the present invention is 90 degrees. Thus, the instrument can be used over a

very wide range of opening without coming apart.

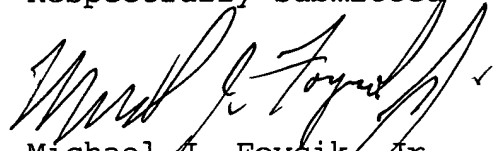
The above-noted differences of the present invention as now claimed are very pronounced, and render it unique and especially advantageous for its intended purpose.

Regarding new Claim 14, the features of Claim 1 are recited therein, and further reciting a light source and structure wherein light is emitted radially outwardly from the two opposed extending elements, from the handle of the first component, and from the beak portion of the first component. This combination of features is not found in the prior art, whether taken alone or in any combination with one another.

The Williams reference was cited for teaching an illuminated forceps and light delivery system. However, this reference does not teach or suggest the combination of features as now recited in the claims of the present invention. Accordingly, this reference does not remedy the aforementioned deficiencies of the Fowler et al. Reference.

In view of the foregoing amendments and discussion, it is respectfully submitted that the claims are now in condition for allowance, and such action is respectfully requested.

Respectfully submitted,



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